The Citrus Industry

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MARVELOUS GROWTH

Some ten years ago, when Florida's citrus production reached the figure of 29,000,000 boxes, many growers began to wonder what was to become of the industry when new groves not yet in bearing began to swell the annual production. Yet, last year, when the total Florida production reached the unheard total of 68,000,000 boxes, the returns to growers amounted to $153,000,000, a sum which ten years ago would have appeared fabulous.

In a recent statement before the Lakeland Kiwanis club, Marvin Walker, retiring Secretary-Manager of the Florida Citrus Commission, said that the volume of citrus produced in Florida last year was 22 percent greater than the nation's total volume of apples. He also pointed out that the total production of citrus in the four producing states of Florida, California, Texas and Arizona, exceeded by 55 percent the nation's combined production of apples, peaches and pears.

Had anyone had the temerity to forecast such figures ten years ago, he would have been derided as a foolhardy optimist — certainly he would have been a "prophet without honor in his own country."

And, while this mammoth increase in production has been going on, and while new problems in marketing and distribution have had to be met, growers have, during the past two or three seasons, enjoyed a greater degree of profit than they had believed possible. Of course, the war and other conditions favorable to the market have contributed to this result; and a growing unity of action among growers themselves has been a contributing factor. If this unity continues in the period following the successful termination of the war, citrus growers may look forward to continued prosperity in spite of increasing production and the inevitable post-war readjustment.

AN IMPORTANT CHANGE

Marvin H. Walker, long connected with citrus interests of Florida in various capacities, recently resigned as Secretary-Manager of the Florida Citrus Commission, and is succeeded by R. C. Evans, also long and prominently connected with agricultural and horticultural interests of the State.

Walker is said to have accepted an important connection in the industry when he leaves the Commission some time in January. Formerly engaged in an editorial capacity with Florida publications, Walker later served as Secretary-Manager of the Florida Citrus Producers Trade Association, and as publicity director of the Florida Citrus Commission before becoming its Secretary-Manager. He is widely known in citrus circles.

Mr. Evans, the new Secretary-Manager, has been a resident of Florida for the past twenty-five years. For a number of years he was connected with the Hastings Potato Growers Association and the Hastings Co-Operative Marketing Organization. Since 1934 he has been connected with the U. S. Department of Agriculture, and for the past three years has been in Washington working exclusively on citrus problems in all citrus producing areas. He was in charge of the marketing agreement and purchase programs for the Texas area for a period of five years.

Well known in citrus circles, Mr. Evans comes to his new position with complete knowledge and understanding of the many problems coming under the jurisdiction of the Commission.

AN ANNIVERSARY

With this issue The Citrus Industry enters upon its twenty-fifth years of publication.

During all of the twenty-four years of its existence, the publication has been under the same ownership, practically the same directorate, and the same editorial management which functioned at its birth. Adopting as its motto at the time of its christening this slogan: "Representative of every citrus interest; representing no special interest," the publication has endeavored scrupulously to adhere to that policy at all times and under all conditions. The path has not always been smooth nor the going easy, but adherence to that policy has, we believe, brought the publication many friends and a degree of confidence on the part of the growers.

Primarily concerned with the welfare of citrus growers, the publication has devoted its major efforts to the cultural problems of the grower, and to this end has brought the results of research workers and practical grove men to the attention of its readers. That this policy has met with the approval of growers we have had abundant evidence; that the same policy will be maintained in the future is the promise of the management in entering upon the twenty-fifth year of the publication's existence.

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Our 51st Year of Service to Florida Growers

Leaching Of Potash From A Sandy Citrus Soil of Florida....

By CHAS. D. KIME, JR.,
Citrus Experiment Station, Lake Alfred, Florida,
At Meeting Florida State Horticultural Society

Potash has long been regarded as accumulating in clay soils in forms that are neither water-soluble nor exchangeable. The "fixation" of added potash in non-exchangeable forms merely augments the supply of similarly combined potash already present in ordinary clay soils. The amounts of non-exchangeable potash in these soils are considerable although widely variable. For example, a good productive grassland soil from Illinois was found to contain 6,360 pounds per acre of 18 percent of the total potash fixed as non-exchangeable while a non-productive soil contained about 3,360 pounds per acre which represented 11 percent of the total potash of the soil.

The above idea of "fixation" or accumulation of added potash into a non-exchangeable form has been borrowed and applied to the sandy citrus soils of Florida. However, when the characteristics of sandy citrus soils were considered, it was found that they were inherently different from clay soils and that potash might be expected to leach rather easily. Preliminary work by Peech on the Citrus Experiment Station potash experiments indicated that potash leached instead of accumulated since he found little more total potash in the plots which had received 10 percent applications than in those which had received 3 percent applications of potash. The source and rate of application of nitrogen and phosphoric acid were held constant while potash was varied. Thus, the indications are that the potash supply is a "hand to mouth" matter, or in other words potash must be supplied frequently to sandy citrus soils in order to maintain an adequate supply.

Since 1921 the Citrus Experiment Station has been carrying on an experimental potash block which was divided into plots with varying rates of application of potash. These rates were 3, 5, and 10 percent potash applied 3 times per year at an average rate of 20 pounds per tree. Over a period of about 15 years the 3 percent plot had received 1,530 pounds of potash per acre, and at the end of that period an analysis for total potash* conducted by Peech indicated that a total of only 107 pounds or 7 percent of the potash applied could be found. The 10 percent plot had received 4,500 pounds of potash over the same period of time, and a total of only 130 pounds or 3 percent of the potash could be recovered. Since the removal of potash in fruit is relatively small, it is obvious that there has been considerable loss of potash, evidently through leaching.

Sandy soils, in contrast to clay soils, are considered to be organic as far as their chemistry is concerned. Since the organic matter content of sandy soils is very low the most significant loss of applied potash is through leaching. However, a relatively small amount of the applied potash may be fixed by the organic matter of these soils. Consequently, there are 3 ways in which this fixed potash may be released from a sandy soil: (1) By replacement of slowly exchangeable potash, (2) by decomposition of organic matter, and (3) by dispersion of soil humates**. Following any one of these 3 activities in the soil, potash may be either taken up by the crop or lost by leaching.

Of the various factors which affect the loss of potash, the most active ones are rainfall, pH and the manner in which potash is applied, either as a straight fertilizer material or in a mixed fertilizer. With these facts in mind, both laboratory and field experiments were set up to determine the rate of leaching of potash from a sandy citrus soil (a Norfolk fine sand). The laboratory experiments consisted of controlled leaching of large soil samples following the application of potash as straight muriate of potash (KCl) and as a component of a mixed citrus fertilizer. These experiments were followed by a field experiment.

* Total potash includes exchangeable and fixed (or non-exchangeable) potash.

** "Humates," the term used to designate those complex soil organic compounds having base exchange properties.

The laboratory studies were made on soil from plots which had been used to determine the effects of different basic materials and magnesium sulfate on citrus. These materials were dolomite and calcium carbonate applied at rates varying from 0 to 6,400 pounds per acre, and magnesium sulfate and magnesium carbonate applied at rates of from 0 to 1,600 pounds per acre. Sixteen samples having an initial range in pH from 5.15 to 6.05 were selected, placed in 5-gallon glazed crock and leached with distilled water which was applied at the equivalent rate of one-half inch of rain per acre every other day. Surface evaporation and weed growth were reduced by keeping the crocks covered with heavy wrapping paper. At the end of every 2½ inches of rain the volume of the accumulated leachate was measured, samples taken and analyzed.

The soil samples were leached until the rates of leaching of potash were about comparable. Following this leaching, muriate of potash was applied at the rate of 82 pounds per acre. Leaching was then continued until the equivalent of 8 acre-inches of rain had been applied following the application of the muriate of potash.

A resume of the data is presented here for the dolomite series which was selected as being representative of results obtained from the other 3 materials. Representative curves for the rates of leaching of the various "bases" are presented in Figure 1. The accumulated total chemical equivalents of potassium (K), calcium (Ca), and magnesium (Mg) lost by leaching are plotted against equivalent "acre inches" of rain applied to Sample 3 of the dolomite series. This sample had been treated in the field with dolomite at the rate of 400 pounds per acre. The data obtained, as shown by the potassium curve of Figure 1, indicate that the easily leachable potash had been lost by the end of the application of the equivalent of 4-acre inches of rain. The rate of loss covered a range of approximately 3 to 8 percent of the total soil potash per

(Continued on Page 6)

U. S. farmers produced more food in the last three years than in any comparable period; more food than any other country ever produced in that length of time.

Nearly 2,500,000 tons of natural nitrate was brought in from Chile in that same period, to help in the vital production job.

Each year U. S. farmers smashed — **smashed** — their goals. Each year they produced more than was asked of them, more than the year before.

Now the biggest job of all is right ahead, U. S. farmers again will need every pound of soda they can get, **and they will get every pound that can be brought from Chile in time for 1944 crops!** There is good reason to hope that ships will be provided to bring enough nitrate for every necessity. Chilean Nitrate has always been a tremendous factor in food production. For one thing, it has farmers' complete confidence in its favor. They have used it always. They know it well—how to use it, what to expect of it. They like its ideal physical condition; its excellent shipping, storing and handling qualities; and its safety and efficiency for side dressing and top dressing. Such confidence, coming from long and satisfactory experience, means half the battle won.

Last year Chile sent 1,000,000 tons of nitrate to United States farmers. This year another 1,000,000 tons is ready, waiting only for ships to bring it in . . . **another 1,000,000 tons of soda to help make Victory sure.**

1,000,000 tons of natural Chilean Nitrate—the tonnage farmers used last year—properly applied, will produce 250,000,000 bu. of oats or 100,000,000 bu. of wheat; 125,000,000 bu. of corn, 4,800,000 tons of forage crops, or 6,000,000 tons of vegetables.

Natural **CHILEAN NITRATE** *of* **SODA**

The Citrus Industry
EXCLUSIVE SPECIALIZED CITRUS PUBLICATION
Issued Monthly
Representative of every interest
Representing no special interest

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Florida's Wartime Agricultural Situation

L. H. KRAMER, Chairman
Div. of Agri. State Defense Council
At State Horticultural Meeting

The producers and processors of fruit and vegetables in Florida are having a difficult time in carrying on their operations, trying to meet the USDA production goals and keep their products rolling to market to meet the ever increasing demand from Lend-Lease, Military Forces and Civilian population.

There are too many uncertainties entering the picture, which probably cannot be helped under the war emergency, but I feel a great many could be overcome by a better coordination of all federal agencies and by leaving more to those on the ground who are more familiar with the problems, giving them the opportunity of participating in working out these problems.

You will recall that a year ago, at the Florida State Horticultural Society meeting in West Palm Beach I called to your attention problems facing Florida agriculture; namely, Labor, Transportation, Material, and now Ceiling Prices.

The labor situation had to get extremely severe, it seems, before it received the proper consideration and recognition by the governmental agencies, and then, when farm labor was short, the WPB cut down the supply of farm machinery when it should have been increased in order to help this situation.

Importation of foreign labor is relieving the situation in some sections and should help Florida agriculture materially this coming season.

Selective Service should grant deferment of agricultural workers, as well as fertilizer and feed manufacturing labor. All are essential to the war effort. Agricultural labor should also come under the freeze order in order to tie them to the land rather than have them quit and go to war contract work where the wages are twice as high, especially when ceiling prices on agricultural products do not take into consideration increased wages of agricultural workers.

The ODT is doing everything it can to handle the transportation situation satisfactorily, but there is still room for improvement by a better break down of their agencies in dealing with the small farmer so as not to require them to drive long distances in dealing with these agencies. They do not have the time, nor do they wish to waste gas on long trips and then be required to spend a lot of time waiting for interviews and filling out forms.

The material situation is becoming serious as it applies to the processor. Field boxes for citrus, which must now be repaired and new ones purchased during the time the packing houses are shut down. The containers must be made available during the summer, and packing plants and machinery be repaired ready for the next season.

The OPA, in setting ceiling prices of farm products at the farms, evidently does not take into consideration production cost based on present economic conditions. They cannot be based on previous year's experiences, but must be figured on present increased wages, material, transportation cost, and since these are perishable products, no two areas being alike, extreme hazards due to the elements, insect pests, ets., costs cannot be determined in advance.

There should not be a ceiling on farm products at the farm unless it is high enough to influence production as well as influence the production of the product most needed. If the margin of profit is too close, the farmer will throw up the "sponge" and either go into industry at present high wages, or raise those farm products bringing the most favorable prices. The farmer is not interested in subsidies or incentive payments. They want a fair and reasonable price based upon the gamble and hazards that go along with the raising of farm products.

We have broken the ice in Florida as far as vegetable dehydration is concerned. We have proven that Florida vegetables can be dehydra-

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LEACHING OF POTASH FROM A SANDY CITRUS SOIL OF FLORIDA

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acre inch of rain applied. The remaining potash leached at a lower rate, 1 to 3 percent per acre inch of rain applied. In other words, there are 2 rates of leaching of potash; the first and more rapid rate can be attributed to the solution of potash salts, and the latter rate to the replacement of exchangeable potash, decomposition of organic matter and dispersion of the humates as mentioned earlier in this paper. The graduation of the more rapid rate into the lower rate is gradual; however, for convenience of discussion the change in rate is discussed as if it occurred in steps. It is interesting that following the application of 8 acre-inches of rain the check (no dolomite) had lost a total of approximately 18 percent while the other dolomite plots had lost from 8 to 10 percent of the total amount of potash applied. While considerable potash was retained at the end of 8 inches of rain, it should be noted (Figure 1) that this retention was at the expense of calcium and magnesium which had been replaced and leached. If the leaching were continued, the pH would have a tendency to drop since the adsorbed potash is more easily lost than either calcium or magnesium. Obviously, separate applications of potash materials would result in extensive retention of potash but this would be offset by the loss of calcium and magnesium. A citrus fertilizer mixture was then applied to the same samples at the rate of 1,000 pounds per acre and leached as before. The formula of the mixed fertilizer was as follows with 40 percent of the nitrogen being organic and sand being used as filler:

N — P_2O_5 — K_2O — MgO (Water Soluble) — MnO — CuO.

3 — 6 — 8 — 2 — 1 — 1.

Leaching was carried out until the equivalent of 16 acre-inches of rain had been applied.

Again in order to omit considerable detail a resume of the results for the dolomitic series is presented since the results from the other treatments were similar. The data of Figure 2 are presented in the same manner and for the same sample as were the data in Figure 1. Although the amount of potash was greater at the start of this experiment, the equivalent of the additional application of potash from the mixed fertilizer was lost with the application of the equivalent of 6-acre inches of rain; additional amounts of potash were thereafter lost from the reserve arising from the previous application of muriate of potash. Each inch of rain removed approximately 5 percent of the total potash in the soil at the time, and this rate had not fallen off greatly even at the end of the leaching period. The rate continued for about twice as long as the first and more rapid rate of loss

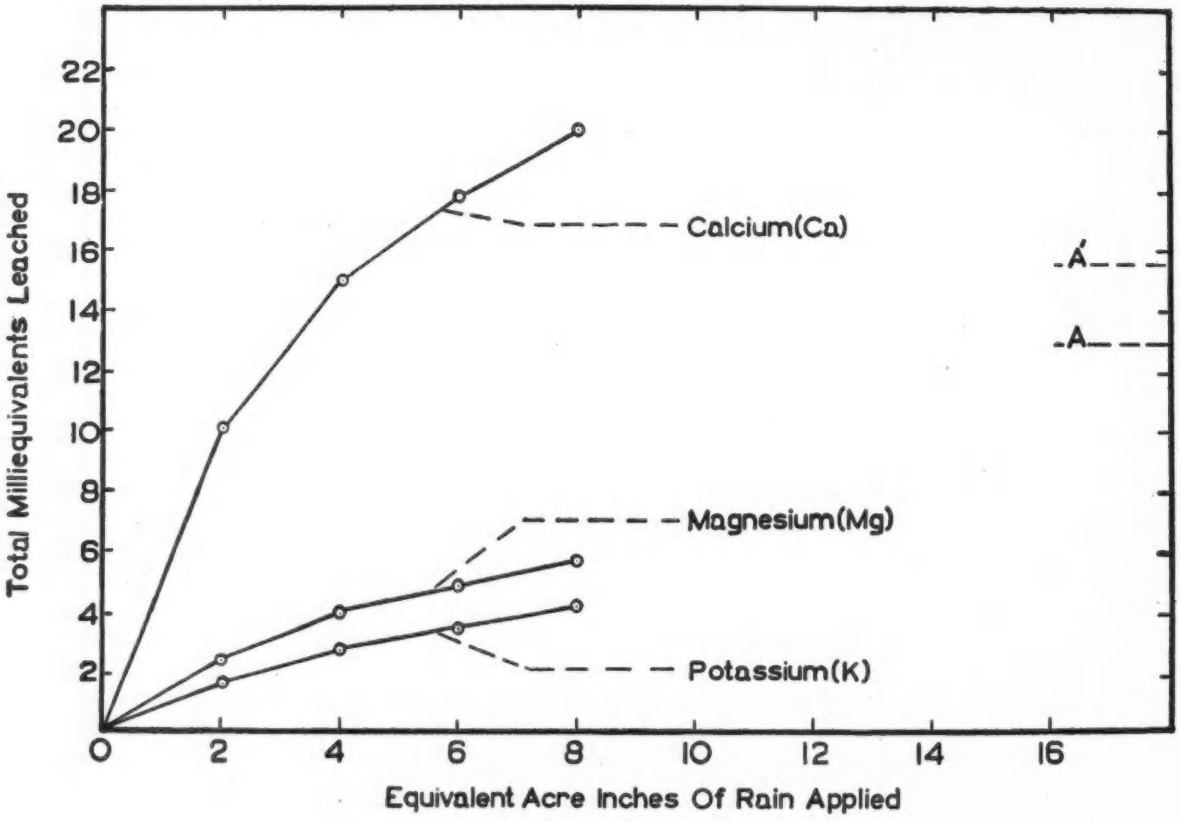

Figure 1.

Relative rates of leaching of potassium (K), and calcium (Ca), and magnesium (Mg), following the application of muriate of potash (KCl) as a straight fertilizer material.

A.— represents the amount of potassium (K) added to the sample as a component of muriate of potash.

A'— represents the total exchangeable potassium present in the sample following the addition of muriate of potash at the start of the first leaching experiment.

from the application of straight muriate of potash and accounts roughly for the loss of 30 percent of the potash applied in the mixed fertilizer. Here, as in the first experiment, the rates of loss of potash are divided into steps for convenience of discussion even though it is realized that the change is gradual. The first rate of loss was doubtless due to the solution of potash salts and to the replacement effect of the soluble fertilizer salts and the soil acids. As soon as the excess fertilizer salts are washed out, the remaining potash was lost as a lower rate of leaching during the remaining 10-acres inches of rain applied. This rate was approximately 3 percent of the total potash present in the soil per acre-inch of rain applied which indicates a loss of approximately 30 percent of the potash present in the soil for the remaining 10 acre-inches of rain applied and a total loss of around 60 percent of the total potash present in the soil immediately following the application of the mixed fertilizer and 170 percent of the applied mixed fertilizer. The continued leaching at a lower rate is probably due to the combination of factors mentioned in the introduction of this paper.

A further comparison of the rates of loss of potash from the application of straight muriate of potash and from the complete citrus fertilizer, Figures 1 and 2, indicates that the rate following the application of the complete fertilizer was roughly 2 or 3 times that following muriate of potash. Again, this is probably due to the displacement of the exchangeable potash by the soluble fertilizer salts and soil acids and to the fact that the total amount of potash in the soil at the start of the experiment was high. In other words, potash is lost fairly slowly as long as the concentration of soluble fertilizer salts, including potash, is low, however, as soon as these salts, particularly those of calcium and magnesium, are added the loss of potash is again greatly accelerated (Figures 1 and 2). Thus, there is little, if any, advantage, as far as conservation of potash by the soil is concerned, in applying it as straight muriate of potash, especially when the loss of exchangeable calcium and magnesium is considered.

It was observed that the loss of potash was accentuated at a pH below 5.3 or above 6.0. Laboratory work here at the Station supports this observation for sandy soils. Apparently the soil acids displace potash when the pH is below 5.3, while the excess of soluble salts and carbonate residues displace potash at a pH above 6.0. Recently Peech and Bradfield(1) have shown this to be true for clay soils.

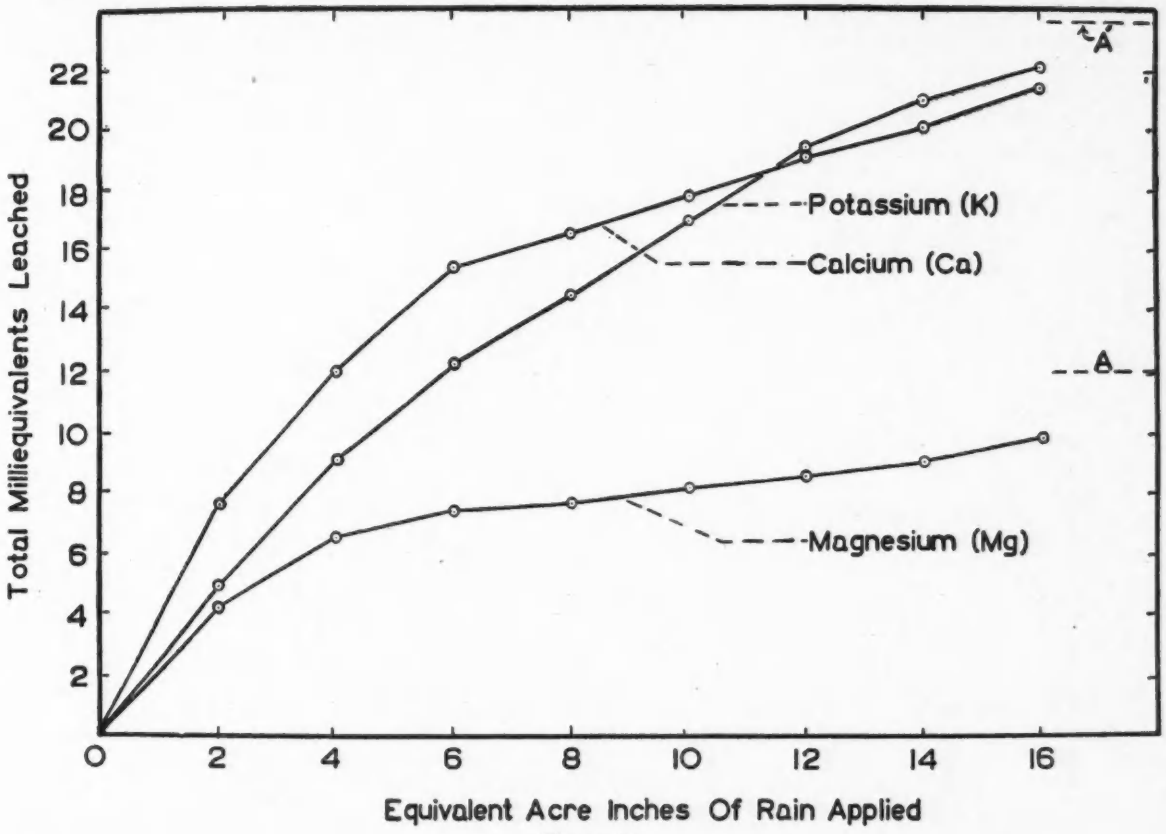

Figure 2.

Relative rates of leaching of potassium (K), and calcium (Ca), and magnesium (Mg), following the application of a mixed citrus fertilizer.

A.— represents the amount of potassium (K) added to the sample as a component of the mixed fertilizer.

A'.— represents the total exchangeable and soluble potassium (K) present in the sample following the addition of the mixed fertilizer at the start of the second leaching experiment.

(1). Peech, Michael, and Richard Bradfield. The effect of lime and magnesium on the soil potassium and absorption of potassium by plants. Soil Sci. 55: 37-48. 1943.

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How High School Youths Can Work For Victory In Field And Grove...

BY P. H. SENN
Assistant State Supervisor, Emergency Farm Labor, Agricultural Extension Service

The American farmer is being called upon to do one of the biggest jobs in winning the war. He is asked to raise food for our armed forces, war plant workers, and our Allies, as well as for feeding the civilian population of our country.

Food is considered a weapon in the fight for victory and farmers and grove owners of the United States have been asked to produce more crops and livestock products than ever before in history so we will have the kind and quantity of foods needed to carry the war to a victorious end.

But the farmer is in need of help. He is experiencing a need for farm labor. More than 3,000,000 people who produced food before the war have left agriculture. Thousands have entered military service, while others have gone to work in defense plants — shipbuilding, camp construction, air fields, ammunition plants and airplane factories. Many of our most skilled farm workers have left the farms. Farm families are working harder and longer hours, but they cannot make up for the added labor needs. The shortage of gas and automobile tires are reducing the supply of migratory workers who in normal times move from one agricultural area to another and assist in the planting and harvesting of important crops.

In an effort to provide enough farm labor our National Government is calling on men, women, boys and girls to work in full-time and seasonal jobs on farms. Many boys and girls of high school age are eager to help in every way possible to win the war. Farmers are calling on them more and more to help.

High School Boys and Girls

State and County officials are thoroughly familiar with the labor shortage confronting the farmers of Florida, particularly at this season of the year when so many food crops are ready to be harvested. These officials are cooperating with the State Farm Labor office in planning for efficient use of students for work on farms during out-of-school hours. School boards are adjusting schedules so students can have more time for farm work. Opening dates for some schools have been advanced, while others have been delayed. A plan allowing half-day for school and half-day for farm work has been arranged for some. These and other adjustments are means of providing needed helpers during peak season of farm work. In adjusting school schedules, efforts are made not to interfere with the general educational plan of the state school program.

Jobs To Be Done

We have in Florida many types of farm jobs open to able-bodied boys and girls willing to help in harvesting our much needed food crops. Vegetable production is a big industry and many kinds of vegetable crops are grown. These crops, high in food value, must be harvested at just the right stage of maturity and carefully handled in order to meet market standards. Tomatoes are carefully picked by hand and packed with caution so as not to bruise the fruits. Celery harvest requires much handling in trimming the bunches in the field and preparing for market. The bean crop, covering many thousands of acres in Florida, requires many laborers for hand picking during the harvest season. Both Irish and sweet potatoes require much labor in digging. Strawberries require much hand work. The fruits must be carefully handled so they reach the market in good condition. Much of the peanut crop has already been gathered, however, in some sections, farmers are calling for help to complete the harvest of this important war-crop.

Sugarcane harvest has begun and many extra workers are needed to strip the leaves and cut the stalks, making ready for grinding the cane for sugar and for syrup production. The harvest season for citrus is now under way and will extend over several months during which time great numbers of extra pickers are employed in gathering the immense crop. Boys and girls are encouraged to grow victory gardens. In doing so they will learn many valuable lessons in food production ,and at the same time have the satisfaction of supplying fresh, nutritious vegetables for the family table. Capable workers are needed for operating and repairing machinery and other farm equipment. Helpers are needed to feed animals, milk cows, and care for livestock. In doing farm work, non-farm youths can experience a real down-on-the-farm thrill which they will long remember and cherish through the years to come.

Training For Jobs

Many boys and girls need training before going on a job, and efforts are made to instruct them in farm skills before undertaking farm work. Training varies, depending on the individual and work to be done. Short courses and on-the-farm demonstrations are used in fitting boys and girls to do farm jobs. Farmers should not expect inexperienced workers to be hardened and skilled from the start, and they should exercise patience in dealing with them. Time spent in giving new workers the proper start, advising them rightly, and pointing out time-saving methods and safety measures, will often prevent many unpleasant situations, disappointments, and even accidents.

Supervision

Farmers employing high school students are asked to provide field supervisors who serve to encourage efficient work and good discipline. Group leaders, chosen from among the students, are satisfactory for most jobs. They work along with their group and under the direction of a general field supervisor. Group leaders and field supervisors also assist in transportation arrangements, working conditions, keeping time, and payment of wages. High school boys and girls are paid fair wages, in keeping with the rate of pay for other workers of the community

doing the same kind and amount of work.

Placement

Before a boy or girl is placed on a farm job, consideration is given to his or her ability to satisfactorily peform the work to be done. The state emergency farm labor office of the Agricultural Extension Service is cooperating with local school officials and teachers in those counties where labor shortage exists. Work offices are set up in the schools where students can register for farm work. These work offices are commonly managed by one or more volunteer teachers who are interested in placing students on farm jobs, arranging transportation to and from farms, keeping records of time worked, rate of pay, and wages received by each student worker.

Protection

Safety measures for students working on farms are cautiously observed. Safe trucks for transportation, work assigned to a student in keeping with his age, health, strength and ability to do the job, good drinking water available at all times, and other precautionary measures are taken to insure the well-being of the boys and girls doing farm work. Certificates of employment of school children, prescribed by law, are required during the hours when public schools are in session. These certificates are obtained through the office of the County Superintendent of Public Instruction.

Youth's Opportunity

The farmers of Florida are experiencing a labor shortage and are caliing on every able-bodied youth to help during this emergency. The high school students of our state are faced with a challenge to work on farms during out-of-school hours. Every boy and girl has an opportunity to make a worthwhile contribution to the war effort, helping to produce and harvest food crops. Those who volunteer their services become members of the Victory Farm Volunteers, a national organization of boys and girls of high school age who will help with farm work during the farm labor emergency. Farm work is war work. No finer expression of patriotic service can be demonstrated by our high school boys and girls than by working on a farm, helping to produce food which will fight for Victory!

BUY UNITED STATES WAR BONDS AND STAMPS

Florida Farmers Have Achieved Despite Problems

During the year 1943 the farmers of Florida have striven mightily and well to do their part in the war program. Labor shortages probably were the worst problem, but there were also shortages of machinery, trucks and other equipment needed in farming. There were serious problems that had to be met and solved, but the bright thing about the year is that the farmers in one way or another, using all their ingenuity and energy, sloved the problems, or at least, most of them, and came out on top in their drive for high production.

That their strenuous and patriotic efforts were a fine contribution to the war effort during the year is certain; that they will continue striving with all their wits and will and strength to do even more in the new year is just as certain They realize the tremendous resposibility

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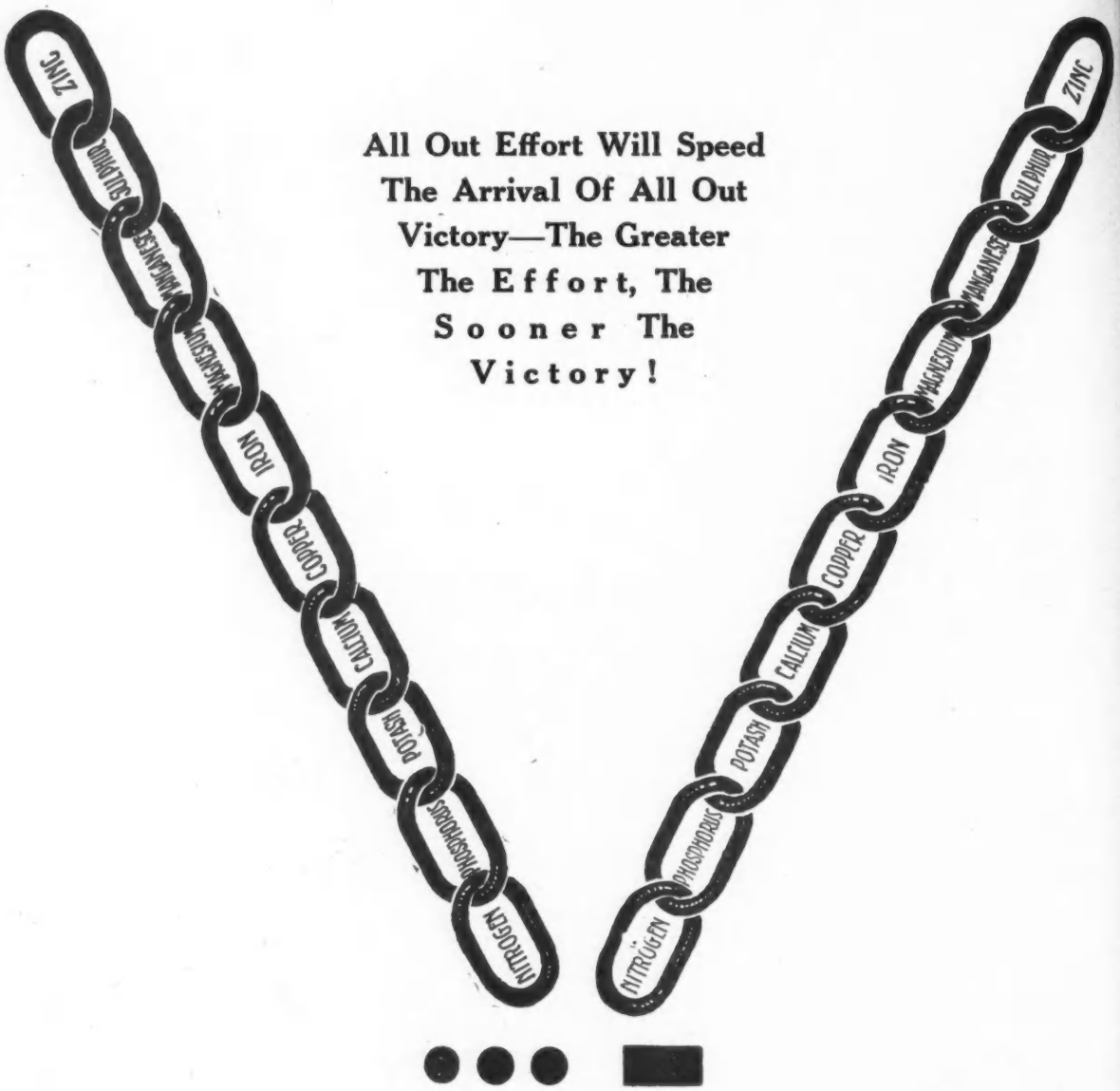
Year In And Year Out Flo da
A Great Many Thing T



All Out Effort Will Speed The Arrival Of All Out Victory—The Greater The Effort, The Sooner The Victory!

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Factory and Office East Broadwa At

da Growers Have To Be Thankful For---

It's true we have certain weather hazards and some pests to combat, but when we stop to consider what the agriculturists of many other sections have to overcome to produce their crops we Florida growers may feel that on an average we are decidedly fortunate.

—And as a whole Florida Growers too have discovered how to improve their crop production and how to keep their trees healthy and vigorous.

Superior's Extra Value Brands Serve To Build Superior Crops

Manufactured by men who know Florida's agricultural problems as the result of intimate personal knowledge and experience EXTRA VALUE BRANDS cannot fail to aid in the production of big, fine crops.

The reaction of Florida Growers to EXTRA VALUE BRANDS is best shown by the constantly increasing volume of sales which has been made by this company from the very inception of its business.

It will pay you to let EXTRA VALUE BRANDS, containing All Ten Vital Elements, aid you in producing healthy trees and Superior Crops.

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wa At 47th Street, Tampa, Florida

University of Florida Agricultural Workers Closing Successful Year

Workers of the University of Florida Agricultural Experiment Station and Agricultural Extension Service are now winding up one of the most strenuous and productive years in the history of the two agencies.

For Florida farmers 1943 has been a year of tremendous effort to outdo all their past accomplishments in production of food and other war crops; for Experiment Station and Extension Service workers it has been a year of equally concentrated attention to helping farmers do the job. The result has been production of great quantities of pork and beef and production of more eggs, fruits, and vegetables than ever before in Florida history.

The highly successful victory garden program was launched by extension and research workers early in the year and resulted in more people, in town and country, raising more vegetables for home use than during any other year in the history of the state. County and home demonstration agents, horticulturists, entomologists, plant pathologists, and other workers, provided information to thousands of victory gardeners on soil preparation, fertilization, planting, pest control, harvesting, conserving, and utilizing the food that was produced.

Animal industry specialists and scientists gave timely advice to thousands of beef and pork producers, dairymen and poultry producers on feeding, pest control, breeding, and management of herds and flocks so that maximum production could be achieved.

To keep farmers, growers, and gardeners informed, the extension and research workers have used the press and radio, written thousands of letters and sent bulletins by mail, and have visited and conferred in person with them.

In the middle of the year the Extension Service took over administration of the emergency farm labor program and has succeeded in establishing a system which promises greater efficiency and production in the future.

Outstanding research developments in the Experiment Etation during the year include the following:

Testing and proving the Pan-American tomatoe, a wilt-immune variety, to be satisfactory for Florida production.

Showing Florida vegetables to be equal or superior to vegetables from other sections for dehydration.

Development of a process for making orange juice concentrate that will retain 90 percent of its original vitamin C content for 12 months.

Testing which revealed that treatments with Spergon and Arasan, two organic compounds, are good controls for decay of seed.

Experiment showing that superphosphate from which all but two tenths of one percent of the flourine is removed is satisfactory as a substitute for bone meal for cattle.

Development of a new war-time formula for ice cream to help manufacturers cope with the shortage of milk solids.

Development of flexible rations, with special attention to green feed, to help poultry producers with problems of feed shortages.

Experiments which showed that surprisingly good results can be obtained from mulching lettuce, peas, and other crops to control root-knot.

Tests showing that dusting with sulphur to control insect and disease damage of peanuts is profitable.

Soil scientists of the Station also collaborated with the Soil Conservation Service and other state and federal agencies in developing an over-all program for conservation and utilization of the Everglades.

SOIL SURVEY GIVEN SPECIAL EMPHASIS AT RECENT MEETING

Gainesville, Fla.—The need for expanding the soil survey program in Florida and other states as rapidly as possible to provide a sound basis for future land use planning was emphasized by growers, soil technicians, and rural real estate men attending the recent annual meetinf or the Soil Science Society of Florida here.

Resolutions stressing the importance of soil surveys were drawn up by the Society members and will be widely circulated among growers and others who are interested in Florida and will also be set to soil workers in other states.

Improving and conserving soil fertility and other land use problems of western Florida, southern Alabama, and southern Georgia were also given special attention by workers attending the meeting. Three states and the U. S. Department of Agriculture were represented at the meeting. G. M. Volk, Gainesville, was elected president of the organization for 1944.

Citrus Notes...

Total shipments of citrus from Florida for the present season are up 36.4 percent over the same period of a year ago. Last year a total of 8,851,687 boxes had been shipped up through December 23, while this season the total had climbed to 12,078,198 boxes.

Acting in concurrence with a request from Thomas B. Swann, chairman of the Florida Citrus Commission, operators of the majority of Floridas' citrus canning plants agreed to continue to operate for another week instead of closing down on Dec. 25 until such time as authorities in Washington had set a ceiling price on canned citrus. The difficulty lay in the fact that while a ceiling had been set upon the purchase of fruit from the growers that none has as yet been established on the finished product which the canners might get for the processed fruit.

Current reports indicate that citrus workers in Florida will receive approximately $6,000,000 more in wages this season than they received last year when they established an all time high for the amount of money paid to this group. The figures are based upon estimates made by agricultural agencies, while the industrial commission reports indicate that citrus workers are now being paid wages comparable to those paid in other war essential industries.

FLORIDA'S WARTIME AGRICULTURAL SITUATION

(Continued from page 5

ted, five plants are now under construction, but we could have gone a great deal further if we were able to have a better understanding with the Quartermaster Department of the Army, and the Washington authorities have this under their jurisdiction.

Florida does not have a past performance record on cost of dehydration, therefore it must enter the dehydration field as an experiment and gamble. In view of the fact that the government wants vegetables dehydrated in larger quantities, they should do some of the gambling. The dehydration company must pay the grower at least a price equal to what the government is guaranteeing as a floor price, then the price paid by the government on the finished product must be based on reasonable price to grower, all manufacturing costs, plus a reasonable profit and amortization of dehydration plant over a period of three years, and in case of the war ending and contract is cancelled before the end of this period, the balance not amortized should be financed by the government over a long period of time at low rate of interest so as to give the concern going into dehydration an opportunity to change over from government contracts to domestic market and be prepared to meet supply and demand competition. The other alternative would be for the federal government to build and finance dehydration plants, permit their operation under a lease percentage or fee basis, with option to purchase, by satisfactory operators.

These are some of the many problems facing Florida agriculture: fertilizer, insecticides, labor, materials, priorities.

We have a job to do. The only way it can be accomplished is by everyone working together. We in Florida are most fortunate in having all agencies working harmoniously, each one keeping in touch with the other and seeking their cooperation. Nathan Mayo, Commissioner of Agriculture, H. G. Clayton, USDA War Board, A. P. Spencer, Extension Service, Harold Mowry, Experiment Stations, and all committees, some 23, of the Agricultural Division of the State Defense Council realize the importance as well as the responsibilities of helping the producer and processor of agricultural products in

(Continued on page 16)

New Year's Greetings and Sincere Appreciation

To the multitude of friends with whom we have done business during 1943.

1944

Will be a year of stirring and vital action both on the war fronts and at home.

For the New Year we pledge to the growers of Florida our full co-operation and the best service of which we are capable.

★

Jackson Grain Company

Our 35th Year

X-Cel Fertilizers — Insecticides
Feeds and Seeds

Tampa – Florida

ADVERTISEMENT—LYONS FERTILIZER COMPANY

The LYONIZER

Department

COMPILED BY THE LYONS FERTILIZER CO.

Reports of Lyons Field Men . . .

SOUTHWEST FLORIDA
F. W. (Felton) Scott

Growers are now harvesting their fall vegetable crop with tomatoes, as usual being the predominating crop. Considerable eggplant, pepper and escarole is being moved with escarole gaining popularity as a fall and winter crop in this section. The acreage of escarole has been considerable for the past two years and good returns have been realized Citrus movements have slowed down recently and much fruit is being lost through droppage due to the wet summer followed by severe drought of early fall. Fruit is now beginning to move to canneries and this will be of advantage to the fresh fruit movement.

HILLSBOROUGH & PINELLAS COUNTIES
C. S. (Charlie) Little

Recent rains have been a blessing to growers throughout this section. It was beginning to get very dry and trees in many cases were wilting. However, they are now looking good and this is a relief to all growers. Mid-season oranges are rapidly being moved to the market and it now appears that we will finish with these varieties at an early date. There hasn't been a great deal of grapefruit moved but these shipments are being stepped up. Red spider has caused some damage but is not as bad now as several weeks ago. Valencias are splitting very badly in some sections.

POLK & HIGHLANDS COUNTIES

For the past month we have had a great deal of mite trouble all through the Ridge section and in some cases there were considerable defoliation. In many cases it was necessary to use oil to bring this pest under control. However, with the occasional rain and cold weather we expect light damage from the present infestation. Fruit has been moved at a rapid rate from this territory and the common varieties of grapefruit have just about been cleared from the trees. Growers have taken advantage of the good prices that they have received from their fruit and have put their grove properties in excellent condition. With very few exceptions a complete cultural, fertilizer and spray program has been employed.

NORTH CENTRAL FLORIDA
V. E. (Val) Bourland

Never before have I seen growers so intent on getting their grove properties in tip-top condition. To do this they are using a complete range of secondaries in the mixed fertilizer, they are carrying out a thorough cultural program and they are using the spray machine more than ever before. Fruit has been moving to market at a rapid rate, and prices have been very good. There is a feeling of optimism very prevalent throughout the territory that can only result in better groves and better quality fruit. Vegetable crops are being moved to the market at the present time at very good prices and every indication is that the vegetable acreage will be increased in the spring.

WEST CENTRAL FLORIDA
E. A. (Mac) McCartney

The effort on the part of the Experiment Station, the Extension Service and what little help the fertilizer man could give is now showing results in practically all groves in the territory. This is evident when we look at the grove condition that has been greatly improved through the use of a complete range of secondary plant food elements in the mixed fertilizer, coupled with a proper spray and cultural program. The vegetable crops in the territory are in very fine shape and are now being moved to market at prices that are very good. Fruit is being moved to market at good prices and everyone feels good over the prospects for the remainder of this season.

KEEP ON
Backing the Attack
WITH WAR BONDS

DeSoto County

DeSoto County being located in the south central part of peninsular Florida, with an area of 391,680 acres of major agricultural importance to the state and it is from this section that various markets receive some of the finest quality agricultural produce. This County has made many progressive developments during recent years and now with the assistance of their capable agricultural agent, W. L. Woods, it is safe to predict that even greater progress will be made in the years to follow.

DeSoto County has 8,000 bearing acres of citrus that will supply the market with over 1,000,000 boxes of fruit. This is the leading cash crop for the County. One of the most evident progressive movements that has taken place in DeSoto County in recent years, is the improved condition of citrus groves throughout the County and furthermore the quality of the fruit has been greatly improved through the use of complete cultural, fertilizer and insecticide programs. It is quite evident that this section will become of major importance as a citrus producing area.

Ranking second to citrus as a means of cash income is the cattle industry. There are in excess of 40,000 head of beef cattle in the County. During recent years much progress has been made in this industry, with cattlemen improving the grade of livestock through importation of better blood to cross-breed with the native cow. This has resulted in some of the finest beef cattle to be found in Florida. Another important factor in the growth of the cattle industry is the method that has been used in improving the grazing capacity of the range pastures. Through the use of fertilizer materials and the planting of suitable grasses the cattle not only have year round grazing but the ranges also furnish food of much higher nutritive value. The future for the cattle industry in DeSoto County is very bright indeed.

There are 600 acres of vegetable crops grown in DeSoto

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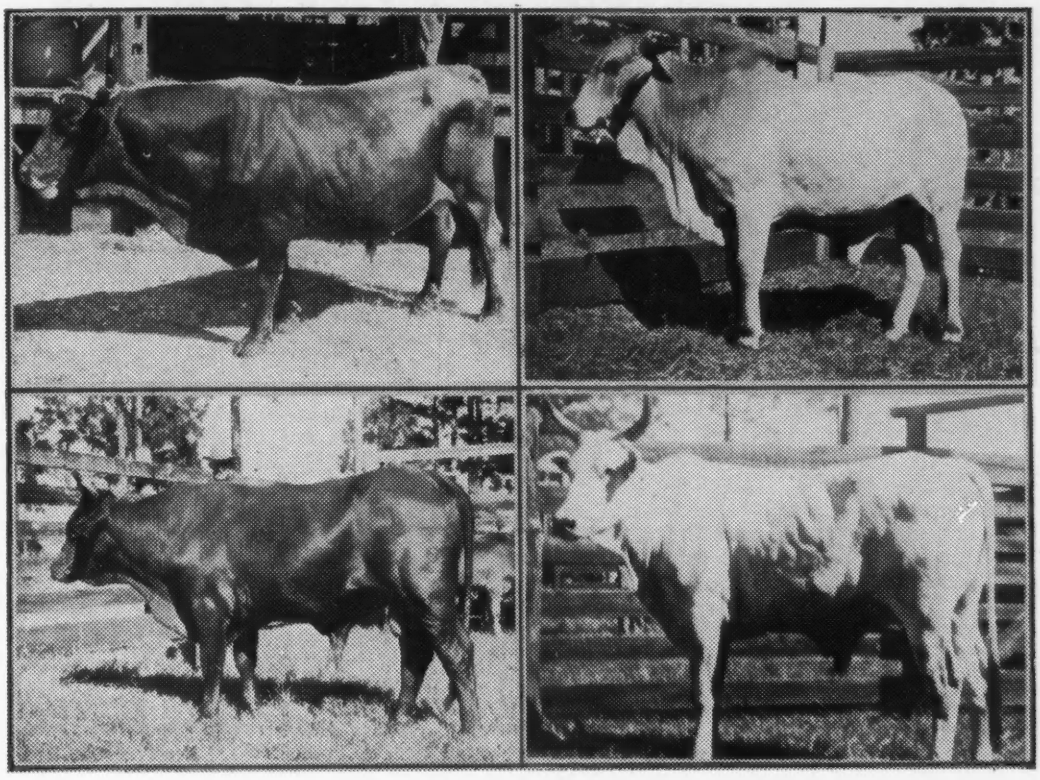
ADVERTISEMENT—LYONS FERTILIZER COMPANY



Shown in the picture above which is used through the courtesy of The Arcadia Arcadian, are pictured the four 1st prize winners in the Third annual Range Cattle Show held at Arcadia in October Upper left is full-blooded Brown Swiss bull; upper right, Brahma bull; lower left Santa Gertrudeis bull; lower right, fine range steer.

Pictured at the right is shown a portion of one of the fine citrus groves which are prevalent in DeSoto county.

DESOTO COUNTY

(Continued from preceding page)

County, and during the coming spring it is estimated that this acreage will be increased. Potatoes and tomatoes are the leading vegetable crops being followed by cabbage, cukes and other crops. There will be a considerable acreage of corn planted during the coming spring.

There are seven citrus packing houses and one citrus canning plant in the County to handle the citrus crop. These houses are also of importance to the County as a source of income during the winter months.

There are 3000 head of hogs in the County. During recent years this industry has shown progress and with the importation of pure breed boars the ho~ situation has been greatly improved. There are four licensed dairies in the County and about 300 cows being milked on a commercial basis.

FLORIDA'S WARTIME AGRICULTURAL SITUATION

(Continued from page 13)

Florida, in any way they possibly can.

It is most unfortunate that for some reason or other the Washington authorities, when issuing an order or directive, do not seem to realize that Florida is different, as far as agriculture is concerned, from the other 47 states, and that we are a winter producing state with a wide variation of soils and methods.

We in Florida are willing to assume our responsibilities and will do our part in turning out the food so badly needed. We hope we will have the full sympathetic cooperation from the various governmental agencies in our efforts. We have tried to be fair and cooperative, furnishing only authentic information when asked to do so, and making only reasonable requests.

In closing, just a little friendly advice to the grower for what it is worth:

1. Don't expect to do business as usual.
2. Keep your chin up.
3. Don't over-expand your operations as there are lean years to follow.
4. Get yourself out of debt.
5. Repair and protect your machinery.
6. Don't buy any more than you need of anything.
7. Do what you can to meet the USDA Production Goals.
8. Put your surplus in War Bonds.
9. Thank God you are an American!

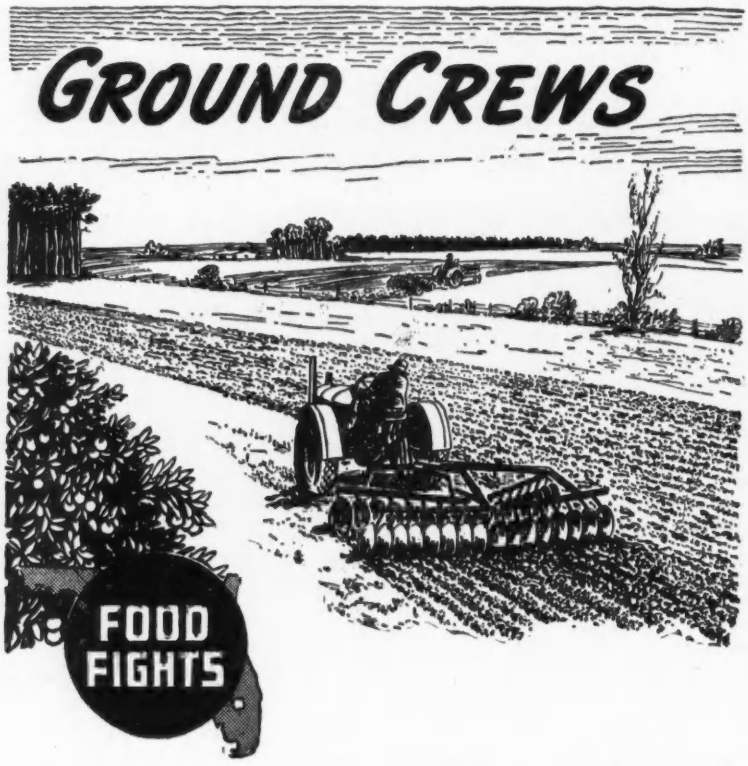
FLORIDA FARMERS HAVE ACHIEVED DESPITE BIG PROBLEMS DURING WAR

(Continued from page 9)

that rests upon their shoulders and the shoulders of their brother-farmers throughout the Nation and they will not fail.

In a recent statement, Dr. H. Harold Hume, provost for agriculture at the University of Florida said:

"The farmer's tank is a tractor or a mule, his rifle is a hoe or fork, his bayonet an ax, his ammunition is his seed and fertilizer. He is his own private and his own general His job is second to none in importance. The mighty effort ahead cannot be made without food. The hours may be long —no 40 or 48 hours for him. He must and he will meet the goal.



Behind the glory of every "Mission Accomplished," behind every American fighting plane, are the unsung men of the "ground crews." The men who service, repair and maintain the fighting power of our Air Forces.

Behind each Florida crop, on farm and grove, there are ground crews, too. The men who guide the plows, the harrows; the men who cultivate the soil, plant the crops and harvest them. They keep Florida food fighting for Victory.

It's the job of the Gulf field men to assist the members of these "ground crews" to grow bigger and better crops. Their services are always available to you. Call on them whenever you have a soil problem. Remember, they have at their command the knowledge and experience gained by Gulf through 40 years of analyzing the needs of Florida crops. They can help you get a record crop from every acre.

For Everything that Grows in Florida...use

GULF Brands of FERTILIZER

Friendly Fertilizers Keyed to Your Soil

The Gulf Fertilizer Company

Tampa and Port Everglades, Florida

Maybe you won't be glad to see him home after all!

ONE DAY, your man will come home.

Home—after having done his duty and played his part in the bitterest, cruelest fight of all time.

And you?

Will you be able to welcome him back with nothing but sheer joy and thankfulness in your heart?

Or will the sight of him remind you, for the rest of your life, that even though your job was unutterably easier than his, you still didn't do it—you didn't quite measure up?

That would be a miserable thing to have happen to you. It would be a miserable feeling to carry through the years.

So don't take any chances. Don't just buy your share of War Bonds. Do that—and then do more. And do it today.

KEEP ON BACKING THE ATTACK!

This advertisement prepared under the auspices of the U. S. Treasury Department and the War Advertising Council

Maximum Wage Rates are Set for Citrus Workers

Maximum wage rates for citrus harvesting labor has been established by War Food Administrator Marvin Jones, according to an announcement of L. H. Kramer, chairman of the Florida USDA Wage Board.

The maximum rates apply to citrus fruit pickers and to loaders and "bunch" truck drivers who work in groves. The EFA order, which was published in the Federal Register, prohibits anyone from paying wage rates higher than the following:

For picking grapefruit, 8 cents per field box.

For picking grapefruit and loading in truck in bulk in grove, 8 cents.

For picking budded oranges, 15 cents per field box.

For picking seedling oranges, 25 cents per field box.

For picking tangerines, 30 cents per field box.

For picking oranges from canopy type budded orange trees requiring use of ladder 30 feet or more in length, 25 cents per field box.

For loading (grapefruit, oranges, tangerines), including customary distribution and picking up of empty boxes, 70 cents per hour or 1 cent per field box.

For driving "bunch" or "goat" trucks in groves, 60 cents per hour.

The order further provides "that in cases of sparse crops, where the trees are large enough to require the use of a ladder for picking and the yield on the entire grove or portions of the grove consisting of solid blocks of trees and covering five or more acres is less than 40 field boxes per acre, a wage rate not to exceed 75 cents per hour may be paid for picking tangerines, oranges or grapefruit on such grove or portion of grove, in lieu of the piece rates, if the employer has advised the chairman of the Florida USDA Wage Board of his intention to use this alternative rate, prior to the commencing of picking, and shall have made proper showing to said chairman that the foregoing conditions exist.

Penalties for violations of the maximum wage rates are specified in the order and include, Chairman Kramer reported, a fine of not more than $1,000 or imprisonment for not more than one year, or both, applicable to both employer and employee; and disallowance of the employer's payroll expense in calculating deductions under revenue laws and in determining costs in connection with any federal contract or maximum price regulation.

The maximum citrus harvesting wage rates were established by Administrator Jones on recommendation of the Florida USDA Wage Board, after hearings held in Lakeland and Orlando at the request of citrus industry groups. Wage rates of citrus packing houses and canning plants are regulated separately by the War Labor Board.

LEACHING OF POTASH FROM A SANDY CITRUS SOIL OF FLORIDA

(Continued from Page 7)

Since laboratory leaching studies at best are only a close approximation of actual grove conditions, field studies were set up in an effort to supplement the potash data already obtained in the laboratory. The dolomite row of the previously mentioned plots was selected since it most nearly approximated present commercial grove practices. Following the usual application of a mixed citrus fertilizer, sets of soil samples were taken periodically whenever approximately 3 inches of rain had fallen. All samples were taken from the same series of trees and as closely as possible from the same position around each tree. This procedure was continued until the next application of fertilizer was made. During this time a total volume of 20 inches of rain had fallen, thus giving ample opportunity for the leaching of potash to take place. Total and exchangeable potash were determined for each sample.

An analysis of the data from the field experiment confirms the results of the laboratory experiments About 30 to 50 percent of the potash was lost from the total in the soil during the first 8 to 10 inches of rain while by the end of 20 inches of rain about 75 percent had been lost. If there had been a greater volume of rainfall, a great deal of the remaining potash would also have leached. Analyses made on samples from the above mentioned field experiments show that both total and exchangeable potash approximate each other within 15 to 20 pounds. This indicates that there is very little non-exchangeable potash in the light sandy citrus soil studied. Thus, the rate of loss of potash is very closely correlated with the rainfall.

Conclusion

Both laboratory and field experiments indicate that the potash added to a sandy citrus soil of Florida does leach. The rate of loss is greater below and above than within the pH range of 5.3 to 6.0. Although proper control of pH will slow down the rate of loss, it is clear that potash does not accumulate in soils similar to the one studied.

CLASSIFIED Advertisements

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

SUPERIOR CITRUS TREES on various rootstocks. Have trees on sour orange root for immediate planting.
WARD'S NURSERY
Avon Park, Florida

Florida Agricultural Laboratory — Babson Park, Fla. Soil analyses and consultation on problems and programs. Consultant in Agricultural Processing and By-Products.

SMUDGE POTS — For Sale. Have approximately 80 good second-hand ones for sale. If interested write, W. J. LYLES, Summerfield, Fla.

CITRUS TREES—Best quality usual varieties on sour orange or rough lemon stock. Robt. P. Thornton, c/o Clay Hill Nurseries Co., Box 2880, Tampa, Florida.

PLACE ORDER NOW Fall Delivery Citrus Trees. All Varieties. Paramount Grove Service, Box 843, Lakeland, Fla. 10-6t

ALYCE CLOVER SEED — Ripe and cleaned. Ideal cover and hay crop. Write for information. P. E. Snyder, Box 866, Lakeland, Fla.